

Enhanced Recovery After Surgery In Minimally Invasive Thoracic Surgery: *The Magic Combo*

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Enhanced Recovery After Surgery (ERAS) protocol is an evidence-based interdisciplinary, patient centered healthcare pathway, that encompass preoperative, intraoperative, and postoperative healthcare steps, in order to improve patients' outcome.
ERAS main objective is to minimize stress response and surgical trauma. Subsequently there is a decrease in hospital stay and hospital costs.
ERAS pathway encompasses the multidisciplinary collaboration and involves patients with empowerment and communication.

Key Components ERAS

- ✓ Pre-operative optimization
- ✓ **Minimally invasive surgical techniques**
- ✓ Multimodal pain management
- ✓ Early ambulation and mobility
- ✓ Nutritional support
- ✓ Patient education and involvement



Enhanced Recovery After Surgery Protocol in Thoracic Surgery

Multidisciplinary Collaboration

Patient communication

Preoperative phase	Admission	Perioperative phase	Intraoperative	Postoperative
Information, education and counseling	Eliminate fasting period	Antibiotic prophylaxis	Standard anesthetic protocol	Chest drain management
Nutrition screening and supplementation	Oral carbohydrate loading	Venous thromboembolism prophylaxis	Non-pharmacological postoperative nausea and vomit control	Urinary dtrianage
Smoking cessation	Avoid preoperative anesthetics	Skin preparation	Regional anesthesia	Early mobilization
Alcohol dependency management		Preventing intraoperative hypothermia	Pain control	
Anemia identification and correction			Fluid management	
Pulmonary prehabilitation			Atrial fibrillation prevention	
			Minimal Invasive surgery	



Key Components MITS

- ✓ Reduced hospital stay
- ✓ Faster recovery and return to normal activities
- ✓ Decreased post-operative complications
- ✓ Improved patient satisfaction
- ✓ **Improved patient outcome**

Minimally Invasive Thoracic Surgery (MITS) aims to reduce physiologic stress and surgical trauma, reduce postoperative complication rates, reduce length of hospital stay early return to return to normal function.
MITS includes Video Assisted Thoracic Surgery (VATS) and Robotic Assisted Thoracic Surgery (RATS).
MITS and early mobilization of the patient appear to be more influential in ERAS protocol.



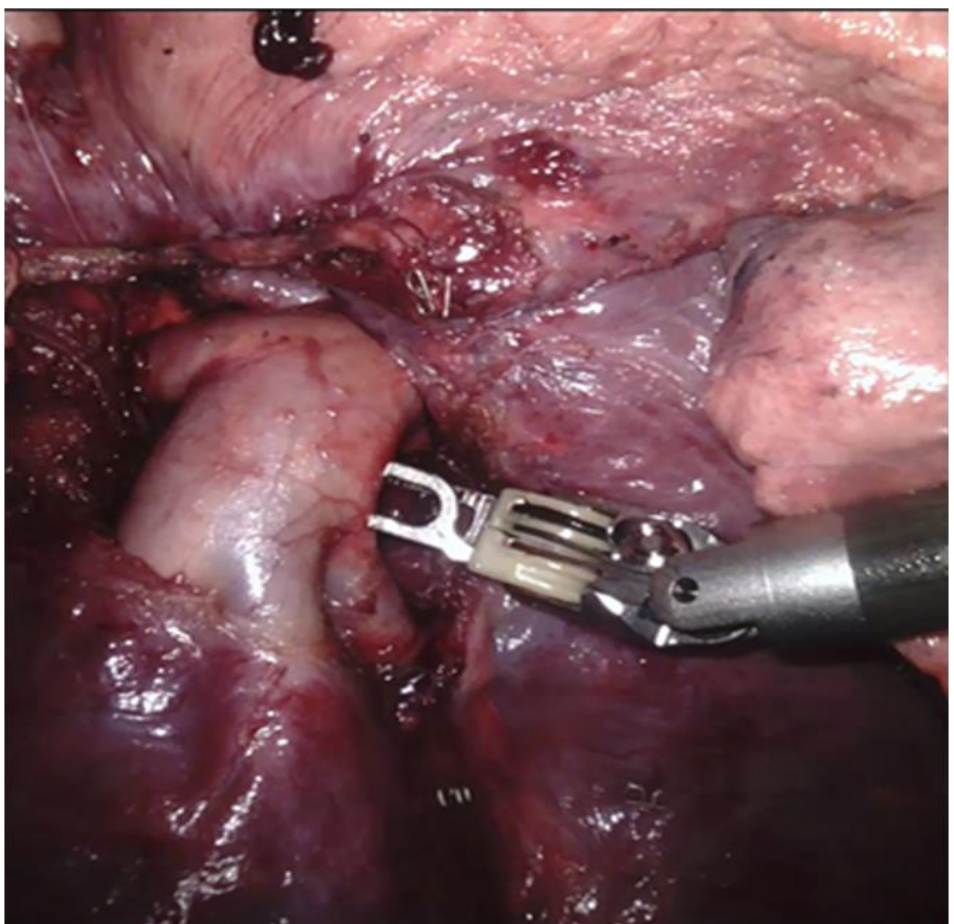
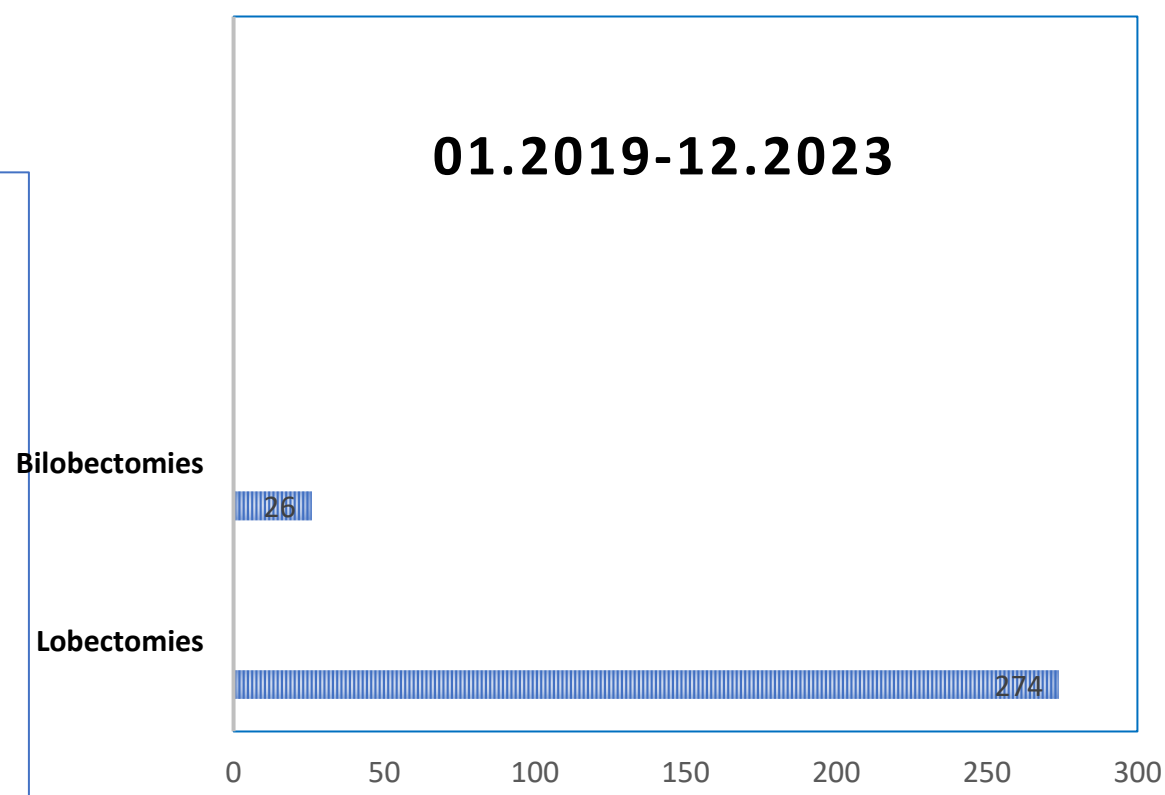
Methods: This is a retrospective analysis of three hundred patients who underwent minimal invasive thoracic surgery for lobectomy or bilobectomy by our surgical team, from January 2019 until December 2023.

We analyzed demographic data and patients' characteristics with the implementation of ERAS protocol (adjusted in localized practice).

Primary outcomes were mortality and hospital length of stay.

Secondary outcomes were readmission rate and admission in Intensive Care Unit.

Results: Three hundred patients with mean age 66,83 years underwent video and robotic assisted Lobectomy and Bilobectomy. The percentage of lung malignancies was 99% and the in-hospital and 30-day mortality percentage was zero. The mean hospital length of stay was 3,41 ($\pm$ 2,27) and the readmission rete was <1%. There was also an observed significant decrease in opioid medication doses.



In-hospital Mortality 0%
30-day mortality 0%
Readmission rate 0,89 %
Opioids usage 1,8%

Mean age 66,83 years old
Lung Malignancies 99%
Length of Hospital stay 3,41 days

Conclusions: The implementation of Enhanced Recovery After Surgery Protocol in Minimal Thoracic Surgery, even adjusted to local practice, offers the optimal treatment to the patient. Early discharge, eliminated mortality and readmission rate and improved patient satisfaction are only some of the benefits.